ABSTRACT

BACKGROUND:

A common complication associated with chemoradiotherapy in the oral mucosa is oral mucositis, worsening the patient's quality of life and has a negative influence on the treatment outcome. Approximately 60% of patients receiving conventional radiotherapy and more than 90% of patients submitted to combined therapy (concomitant chemotherapy and radiotherapy) develop severe oral mucositis. L-Glutamine is a conditionally essential amino acid critical to the regulation of protein synthesis, cellular energy, respiratory fuelling. Patients undergoing chemoradiotherapy for cancer have marked glutamine depletion. This can have a negative impact on the function of host tissues that are dependent upon adequate stores of glutamine for optimal functioning.

Glutathione, an antioxidant is a by-product of glutamine metabolism is an antagonist to prostaglandin E (PGE) production, which is an inflammatory mediator. These facts suggest a possible therapeutic role for glutamine in the prevention of host normal tissue toxicity during cancer treatment. The present study was conducted to study the efficacy of L-Glutamine in the management of acute radiation induced mucositis in head and neck cancer patients.

AIM AND OBJECTIVES:

To evaluate the efficacy of L-Glutamine in the management of acute radiation induced mucositis in head and neck cancer patients undergoing chemoradiotherapy. To evaluate the grades of oral mucositis in patients undergoing chemoradiotherapy in Glutamine group and control group. To assess the time of onset of oral mucositis in the study group and control group. To evaluate subject benefit of relief of pain between the 2 groups.

METHODOLOGY:

The study consists of 50 patients divided into 2 groups. Group I consists of control group where 25 patients undergoing chemoradiotherapy for head and neck cancer use normal saline mouthwash three times daily throughout radiotherapy treatment. Group II consists of study group where 25 patients undergoing chemoradiotherapy are given 10g L-Glutamine crystalline powder to be mixed in 200mL of water and to be consumed 2 hours before radiotherapy from the beginning till end of radiotherapy on the days of treatment. The mucositis was graded using WHO scale and pain was scored using Numeric Rating Scale.

RESULTS:

The results showed there was significant reduction in the maximum mucositis grading between the control group and glutamine group. There was significant delay in onset of severe mucositis and reduction in pain score when glutamine was used.

CONCLUSION:

Glutamine significantly reduced the severity and delays the onset of mucositis and can be used in the management of acute radiation induced mucositis.

Key Words: Oral cancer, mucositis, L-Glutamine